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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/412,334	10/05/1999	THANH VAN DO	2687-8	9548

7590 05/07/2004

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EXAMINER

ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 05/07/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/412,334

Applicant(s)

DO, THANH VAN

Examiner

Charles E Anya

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 52-76 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 52-76 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 52-76 are pending in this application.

Claim Objections

2. Claim 60 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 60. See MPEP § 608.01(n). Accordingly, the claim 60 not been further treated on the merits.

For the purpose of this office action the examiner would assume that claim 60 depends on claim 52.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 52-55,57,59,60 and 68-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Engineering Modelling Concepts (DPE Architecture) Version 2.0” to TINA-C Deliverable (Hereinafter referred to as TINA-C) in view of U.S. Pat. No. 5,17,677 to Moon.**

5. As to claim 52, TINA-C teaches an arrangement for simplifying the design and implementation of mobile services in a communications system, comprising: distributed hardware and software components provided in accordance with a distributed processing environment (DPE) and configurable in use to provide one or more services to one or more users, means for supporting one or more distribution transparencies in the DPE including access, location, or failure transparencies (pages 5-9/5-10).

6. TINA-C is silent with reference to a means for supporting mobile radio terminal mobility transparency such that an application program being executed at a mobile radio terminal located in one radio service area serviced via one radio base station is not interrupted or hindered in its execution when the mobile radio terminal moves to another radio service area serviced via another radio base station.

7. Moon teaches a means for supporting mobile radio terminal mobility transparency such that an application program being executed at a mobile radio terminal located in one radio service area serviced via one radio base station is not interrupted or hindered in its execution when the mobile radio terminal moves to another radio service area serviced via another radio base station (Col. 8 Ln. 29 – 38).

8. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Moon and TINA-C because the teaching of Moon would improve the system of TINA-C by providing enhanced roaming feature of mobile radios and telephone (Moon Col. 3 Ln. 19 – 23).

9. As to claim 53, TINA-C teaches arrangement as claimed in claim 52, wherein the access, location, or failure transparencies are already existing and are defined by Open Distributed Processing (ODP) and adopted by Telecommunication Information Networking Architecture (TINA), and wherein the means for supporting mobile radio terminal mobility transparency in the DPE is added to the already-existing the access, location, or failure transparencies (see the rejection of claim 52).

10. As to claim 54, TINA-C teaches arrangement as claimed in claim 52, wherein the means for supporting mobile radio terminal mobility transparency in the DPE is introduced at requirement and functional specification phases by integrating a mobile radio terminal mobility function into an infrastructure of a software platform designed in the DPE (pages 3-3/3-4).

11. As to claim 55, TINA-C teaches the arrangement as claimed in claim 52, wherein the means for supporting mobile radio terminal mobility transparency in the DPF: includes means for mapping computational objects to engineering objects (EO) so as to be non-visible in a computational model of the application program (page 3-5, page 5-4).

12. As to claim 57, TINA-C teaches to the arrangement as claimed in claim 52, wherein an engineering model may be developed by mapping each of one or more computational objects (COs) to one or more Basic Engineering Objects (BEOs), the

arrangement further comprising: means for effecting an interaction between computational objects belonging to a same cluster is effected directly using one or more method calls, and means for effecting communication between computational objects located in a telecom system domain and in different clusters through a channel including stubs, binders, and protocols (page 5-4).

13. As to claim 59, Chapman teaches an arrangement as claimed in claim 52, wherein an application designer can decide from a computational model whether an object belongs to a user domain or a telecom system domain for use in generating application objects (pages 3-3/3-4).

14. As to claim 60, Chapman teaches the arrangement as claimed in claim 52, further comprising: means for sending a message to a routing broker asking for a server to perform a task, wherein the routing broker is configured to implement a mobility function to locate the server and send the request to the server (page 6-3).

15. As to claim 68, TINA-C teaches the arrangement as claimed in claim 60, further comprising: a proxy object for acting on behalf of an entity in a transparent way (page 5-5).

16. As to claim 69, TINA-C teaches the arrangement as claimed in claim 68, wherein the proxy object is adapted to generate an invoke operation for the mobility function (page 5-5).

17. As to claim 70, TINA-C teaches the arrangement as claimed in claim 69, wherein the proxy object is a symmetrical constellation (page 5-4).

18. As to claim 71, TINA-C teaches arrangement as claimed in claim 68, wherein each proxy object is a Dynamic Object (DO), and a DO instance may be initiated from an object template corresponding to a Dynamic Object Implementation (DOI) (page 5-5).

19. As to claim 72, TINA-C is silent with reference to the arrangement as claimed in claim 68, wherein a proxy represents only one object and is deleted when the represented object terminates, however it does teach deactivation of cluster objects which are associated to the stub/proxy and thus would be deactivated along with the cluster objects.

20. As to claim 73, TINA-C teaches the arrangement as claimed in claim 68, wherein an object can be represented by multiple proxies (page 5-4).

21. As to claim 74, TINA-C teaches the arrangement as claimed in claim 68, further comprising: means for registering in the mobility function first and second objects in different domains (page 5-3) and means for defining and registering a proxy for the object the proxy represents (page 5-4, figures 5/6 page 5-5).

22. As to claim 75, TINA-C teaches the arrangement as claimed in claim 74, wherein objects may be grouped into clusters, capsules, and nodes (page 3-4).

23. As to claim 76, TINA-C teaches the arrangement as claimed in claim 52, further comprising: means for introducing a redirection function on the DPE and for generating a special stub for a dynamic object (page 5-5).

24. Claims 56 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Engineering Modelling Concepts (DPE Architecture) Version 2.0” to TINA-C in view of U.S. Pat. No. 5,17,677 to Moon as applied to claim 52 above, and further in view of “System Support for Knowledge- Based Trading in Open Service Markets” to Puder et al.

25. As to claim 56, Chapman as modified is silent with reference to the arrangement as claimed in claim 52, wherein means for supporting mobile radio terminal mobility transparency in the DPE includes an engineering object interceptor arranged at a boundary between a mobile radio terminal domain and a telecom system domain.

26. Puder teaches the arrangement as claimed in claim 52, wherein means for supporting mobile radio terminal mobility transparency in the DPE includes an engineering object interceptor arranged at a boundary between a mobile radio terminal domain and a telecom system domain (page 293 lines 1 – 19).

27. It would have been obvious to one ordinary skill in the art at the time of the invention was to combine the teachings of Puder and Chapman because the teaching of Puder would improve the teaching of Chapman by providing a means of bridging two different domains (page 293 line 8).

28. As to claim 65, Chapman as modified is silent with reference to the arrangement as claimed in claim 60, wherein the mobility function is a functional layer in a system architecture between an application layer and a DPE layer, where each layer may use services offered by another layer.

29. Puder teaches the arrangement as claimed in claim 60, wherein the mobility function is a functional layer in a system architecture between an application layer and a DPE layer, where each layer may use services offered by another layer (page 293 lines 1 – 19).

30. It would have been obvious to one ordinary skill in the art at the time of the invention was to combine the teachings of Puder and Chapman because the teaching of Puder would improve the teaching of Chapman by providing a means of bridging two different domains (page 293 lines 1 – 19).

31. Claims 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Engineering Modelling Concepts (DPE Architecture) Version 2.0” to TINA-C in view of U.S. Pat. No. 5,17,677 to Moon as applied to claim 60 above, and further in view of “Service Brokering in Object-Based Systems: Advanced Information Services” to Tokmakoff et al.

32. As to claim 61, Chapman as modified is silent with reference to the arrangement as claimed in claim 60, wherein the routing broker is a cascade of two brokers.

33. Tokmakoff teaches to the arrangement as claimed in claim 60, wherein the routing broker is a cascade of two brokers (figure 5 section VII page 47).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tokmakoff and Chapman because the teaching of Tokmakoff would improve the system by providing loading balancing (page 47).

35. As to claim 62, Tokmakoff teaches the arrangement as claimed in claim 61, wherein the two brokers are configured to allow interactions between an object belonging to a user domain and an object belonging to a telecom system domain (page 47 section VII/VIII).

36. As to claim 63, Tokmakoff teaches the arrangement as claimed in claim 62, wherein the two brokers support both a same interface type containing an invoke

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operation to allow a request to be built and invoked dynamically by client objects (page 46 section VI).

37. As to claim 64, Tokmakoff teaches the arrangement as in claim 63, wherein the invoke operation includes an object name or identifier, an operation name, and a parameter list for the invoked operation (page 46 lines section VI).

38. Claims 58,66 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Engineering Modelling Concepts (DPE Architecture) Version 2.0” to TINA-C in view of U.S. Pat. No. 5,17,677 to Moon as applied to claim 52 above, and further in view of “A Computational and Engineering View on Open Distributed Real-Time Multimedia Exchange” to Leydekkers et al.

39. As to claim 58, Chapman is silent with reference to an arrangement as claimed in claim 52, wherein user domain computation objects and a telecom system domain computation object residing in different clusters communicate in a channel including an interceptor transparent to an application designer.

40. Leydekkers teaches to an arrangement as claimed in claim 52, wherein user domain computation objects and a telecom system domain computation object residing in different clusters communicate in a channel including an interceptor transparent to an application designer (page 2 lines 10 – 19, figure 4 page 8).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Leydekkers and Chapman because the teaching of Leydekkers would improve the system of Chapman by providing transparency (page 2 lines 10 – 19).

42. As to claim 66, Leydekkers teaches the arrangement as claimed in claim 60, wherein a derived computational model is configured for use in a transition from a computational model to an engineering model in the DPE to map interactions traversing a boundary between a user domain and a telecom system domain to interactions with the mobility function (figure 1 page 2, page 4 lines 12 – 15).

43. As to claim 67, Leydekkers teaches arrangement as claimed in claim 66, wherein based on the derived computational model, an engineering model can be elaborated and engineering objects can be generated (page 4 lines 12 – 15).

Response to Arguments

44. Applicant's arguments with respect to claims 52-76 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

45. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya
Examiner
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